Note: ECON 498 and 499 are both 3 hour credit courses. However, only Econ 498 can be used for economics credit. Econ 499 can only be used for University credit.

ECON 499

HONORS PROGRAM IN ECONOMICS-II

Professor R. Sickles

Spring 2021

MW 4:50-6:01, Virtual on Zoom

General Information

This course is a seminar in which advanced undergraduates learn how to do research by reading and discussing recent research in economics and by applying research methods in writing a senior honors essay. Grades are based on the quality of the honors paper, on oral presentations and on participation.

A senior honors essay is a major research paper, approximately twenty to thirty pages long, which makes some original contribution either to economic theory or to the accumulation of empirical knowledge. The paper may, for example, propose and implement an empirical test for an existing economic hypothesis or it may offer a new explanation for some economic phenomenon. The paper topic is chosen by you with guidance from the instructor in choosing one that is manageable. You will be assigned a professor in the economics department to serve as a formal advisor. Students will develop a research idea, construct an economic model with testable hypotheses, test those hypotheses, and write and present the paper to your peers and other faculty involved in your work.

To receive honors in the economics major you need to be an ECON or MTEC major. Students must have a GPA of at least 3.67 in all courses required for their major, and must have taken all ECON courses directly related to the topic of their research. Instructor and department approval is required. The Honors Program in Economics is a two semester course. Economics 498 (Honors Program in Economics-I) meets in the fall semester. Upon successful completion of the course (see below specific requirements) you will receive three hours of course credit. During the fall semester you

will develop your research topic as well as learn the process of researching and writing a research paper. Economics 499 (Honors Program in Economics-II) is a continuation of ECON 498 for which you receive three hours of University credit only. If you drop out at any time during the year before completing the requirements, you will not be eligible to receive Honors.

For a variety of reasons, most honors essays will be empirical studies. However, there are occasions where students may be able to succeed in writing a theoretical essay. In the **first semester**, your instructor will begin regular presentations of three hours/week and these will continue through the second month of the fall semester. During this time your faculty advisor is selected, based on your subject interests and the availability of the preferred faculty advisor. After the regular in-class presentations by your instructor have ended in the second month of the first semester, you will continue to meet with your faculty advisor on a regular basis as well as your Honors Course instructor (who also may be your main advisor) at least every other week to go over your progress, provide meaningful assistance in helping you to develop your research topic, explain research methods you may need to develop in order to complete your research, and help you to access and utilize data sources necessary to carry out your research. In the **second semester** the student will have accessed data and developed their research to the point that the essay can be completed in early April.

Learning Objectives

• Advanced undergraduates learn how to conduct research by reading and discussing recent research in economics and by applying research methods in writing a senior honors essay.
• To be able to write a senior honors thesis, which is a major research paper, approximately twenty to thirty pages long, and which makes some original contribution either to economic theory or to the accumulation of empirical knowledge.
• Based on a topic is chosen by the student with guidance from the instructor students will be able to develop a research idea, construct an economic model with testable hypotheses, test those hypotheses, and write and present the paper to your peers and other faculty involved in your work.
• In the fall semester (Economics 498) the student will learn how to develop a research topic as well as learn the process of researching and writing a research paper.
• In the spring semester (Economics 499) a combination of the student's own presentations of the thesis as it continues to be developed and student evaluations of other students' presentations as they do the same will ensure time sensitive portions of the thesis (literature review, final references, model, empirical results) are prepared and that critical thinking and evaluation skills needed to successfully complete the thesis are further developed.
• The final learning objective is for the student to fully integrate the learning objectives above so the student knows how to conduct economic research, beginning with forming a research idea and progressing to the formulation of an economic model to analyze the

issue under consideration, the identification of testable hypotheses, the collection of data and econometric testing of their hypotheses, the presentation of preliminary and final results, and the preparation of a clear, concise, and cogent research paper that presents those results.

Prerequisites

Pre-requisite(s) are: (Econ 203 or Econ 303 OR Econ 375) and (Econ 209 or Econ 309 or ECON 446) and (Econ 300 or Econ 305 or Econ 405) (Note: Especially in 2015-16, as the Honors courses have not been offered previously, pre-requisite of Econ 300/305/405 may be waived or required as a co-requisite; see instructor)

Recommended Resources for Writing an Economics Honors Thesis

1. Guide to the Successful Thesis and Dissertation: A Handbook For Students And Faculty, Fifth Edition (Books in Library and Information Science), (Links to an external site.)Links to an external site.Mauch, J., Marcel Dekker, 2005.
2. Kahneman, Daniel, *Thinking, Fast and Slow*, Farrar, Straus and Giroux, New York, 2011.
3. http://economics.harvard.edu/files/economics/files/writingec_f2014_0.pdf (Links to an external site.)Links to an external site.
4. http://academic.reed.edu/economics/theses/thesis_writing.html (Links to an external site.)Links to an external site.
5. http://www.princeton.edu/economics/undergraduate/pdf/Senior-Thesis-Handbook-2013.pdf (Links to an external site.)Links to an external site.
6. http://economics.harvard.edu/pages/senior-thesis (Links to an external site.)Links to an external site.
7. http://libguides.du.edu/c.php?g=90215&p=582246 (Links to an external site.)Links to an external site.
8. Online Statistics: An Interactive Multimedia Course of Study (Links to an external site.)Links to an external site.
9. Styles of Empirical Research

Recommended Software

The regular version of Stata/IC 15 can be purchased via the Rice Grad plan at:

http://www.stata.com/order/new/edu/gradplans/ (Links to an external site.)Links to an external site.

Rice University Theses Template and Examples of an Honors Thesis

1. Papers

2. Thesis Template (Word Format)

Examples of an Honors Thesis-University of Pennsylvania

1. Papers
2. List of Thesis Titles

Examples of an Honors Thesis-University of Michigan

1. How Free are Free Trade Agreements? (Links to an external site.)Links to an external site.
2. Do Behaviors and Attitudes Affect Whether a Child is Arrested? A Consideration of Evidence From the Panel Study of Income Dynamics (Links to an external site.)Links to an external site.
3. An Analysis of the Effect of Insurance on American Children (Links to an external site.)Links to an external site.
4. Planning For The Future (Links to an external site.)Links to an external site.
5. Outcome-Independent Payoffs in Strategic Voting (Links to an external site.)Links to an external site.

Examples of an Honors Thesis-Harvard University

1. http://economics.harvard.edu/files/economics/files/archivedthesis1999_2015.pdf (Links to an external site.)Links to an external site.

Examples of an Honors Thesis-Princeton University

1. http://dataspace.princeton.edu/jspui/handle/88435/dsp019c67wm88m (Links to an external site.)Links to an external site.

Notes and Articles We Will Use

in the Limited In-Class Lectures and Discussions

from August to Late October

Research Methods in Social Sciences and Economics

1. Why Write an Honor Essay
2. Cognitive Pitfalls

Replicability in Empirical Economics

1. Estimating the reproducibility of psychological science
2. The Economist | Betting on the result
3. Dewald and Anderson (Replication and Scientific Standards in Economics a Decade Later: The Impact of the JMCB Project)
4. Replication in Economics
5. EDA watch Slides
6. On the other hands Honest disagreement in methods may explain irreproducible results The Economist
7. When we present knowledge as more certain than it is, we discourage curiosity (Links to an external site.)Links to an external site
8. Publication bias

Simultaneity/Causation/Counterfactuals

1. The Metaphysics of Causation
2. Counterfactual Theories of Causation
3. Prospect Theory
4. The End of Big Data: AI and the Rise of the Narrative
5. Treatment Effects-J. Angrist
6. Treatment Effects (Links to an external site.)
7. JUDEA PEARL - CAUSALITY - 2nd Edition, 2009 (Links to an external site.)Links to an external site.
8. Judea Pearl-An Introduction to Causal Inference
9. Judea Pearl-The Causal Revolutionary-Interview by Richard Marshall

Treatment Effects and Panel Data

1. Treatment Effects and Panel Data
2. Static Panel Data Models
3. Dynamic Panel Data Models
4. Mosteller Report on STAR project
5. Card and Krueger 1994 AER
6. Natural Experiments: Analysis of Teacher Value Added (Links to an external site.)Links to an external site.
7. Panel Data Sets. (Link 1) (Link 2)

Qualitative and Limited Dependent Variables

1. Limited dependent variables

Simultaneous Equations/GMM/IV/MLE

1. Hausman Test
2. Simultaneous Equations
3. Wooldridge on GMM Applications
4. Generalized Method of Moments.

Requirements

You will be expected to complete assigned readings and to participate in class discussions. You will be expected to meet deadlines in submitting the essay outlines and drafts, to make oral presentations to other members of the seminar about your work in progress and to give a final presentation of your completed paper. You also will be asked to serve as a discussant on a paper of another classmate.

Grading

Your grade is determined by the quality of your honors essay, but also on the quality of your presentations and your participation in the class. The essay is graded by me in consultation with your advisor. Approximately 90 % of your grade will be based on the essay and 10% on class presentations and participation in class.

Class Schedule Econ 498

Choose a topic (September 18)
Tentative bibliography (October 16)
Statement of research plan, including data sources and contemplated analysis (November 15)
Complete a literature review – approximately 10 pages (December 14)
Oral progress reports (bi-weekly beginning week of October 1)

Class Schedule Econ 499

Oral presentations on work in progress (including economic theory and econometric methods) (Week of January 25)
Hand in draft of introduction and outline (February 8)
Oral presentation of work in progress (Week of February 22)
Final oral presentation (Week of March 29)
April 10-Due date for a draft of the thesis for students in order to be considered for the RISE and the Economics Department honors awards for 2021. Your drafts do not need to be final but they need to be complete enough to be read and evaluated by our faculty for the awards.
Draft for final editing (April 30)
Final Draft (May 7)

Thesis Structure

I. Introduction.

II. Literature Review.
Economic Analysis - either a formal economic model or a discussion of the economic principles relevant to the issue.
III. Data - description of the data (what variables you have, number of observations) and table(s) of descriptive statistics.
IV. Econometric Model - present the kind of regression, VAR, etc. that you will estimate and discuss how it is connected to the issue and its consistency with the economic analysis.
V. Results.
VI. Conclusions.

You may combine I. and II.

You may combine V. and VI.

The thesis should be no longer than 30 pages with tables and references.

Why Write an Honors Essay?

A general discussion of the Honors Essay

There are a number of reasons why students who are eligible for Honors in Economics chose to write an honors essay. The most compelling is in order to satisfy your intellectual curiosity. The process of developing your skills sufficiently to write a successful honors essay will provide you with transferable skills, whether you stay in your field of study or not. Most jobs require just the sort of lasting skills that you will develop, particularly in the form of problem solving and oral and written communication. You must ask smart question and acquire the investigative instincts needed to find answers to those questions. That means you must be able to navigate libraries, laboratories, archives, databases, and other research venues. Moreover, you must also develop the flexibility to redirect your research if your initial plan does not succeed. You will continue to master skills of time management, your argumentation skills, your organization skills, and your oral communication skills by presenting and defending your project to faculty and peers. These skills will stay with you and complement any future position and profession in which you chose to engage.
Another reason for writing an honors essay is that it allows you to work closely with faculty mentors who can enrich your intellectual development and provide invaluable references for graduate school and employment and can also assist in opening windows into future professions.
Finally, an honors essay will give you a taste of what it's like to do research in economics. Not only will this be an end in itself, it might also help you decide whether to pursue economics in an advanced degree program or professionally were you to begin working after you complete your undergraduate degree.

Types of Essays

1. *The empirical essay*

For this type of essay, you develop an empirical question, either one that you take from the literature or one that you develop, and you use data to provide evidence about it. To answer your question of interest, you use economic models that help identify the important variables and how they interact. Data are analyzed using rigorous statistical methods. The data you analyze can either come from published sources or you can gather it yourself. Published data may be available on-line or you may have to enter it into the computer.

2. *A theoretical essay*

This type of essay develops an economic model to better understand some economic phenomenon. A theoretical essay should (1) motivate the need for the model and (2) discuss how your model differs and improves over others in the literature as well as discuss its limitations. Naturally, any model you propose will be more convincing if you can also present some empirical support for it. You may use previously published tables or figures to support your model as long as they are cited correctly.

Steps involved in writing the essay

1. Search for a Topic. Find a topic that is both of interest to you and is well suited to your skills.
2. Literature Review. Do extensive reading in your area of interest and take notes on your readings. A section of your essay will be devoted to a discussion of the existing literature in your area and how your research contributes to it. A good place to start is with an intermediate-level economics textbook and with economics journals in the library. Also, look through reading lists from your previous courses. Try to make your topic as focused as possible and plan your research strategy.
3. If you are doing an empirical study, find out what data sources are available to you. You may need to revise your topic because of data availability. Collecting your own data is an option, although you will need to carefully design the method by which you collect the data. For empirical work, you will also need to choose and to learn how to use the software for your data analysis. Empirical research should be carried out in a way that someone else could take the same data and replicate your results, so it is important to document how variables are created etc., and this usually done in a data appendix to the paper. Document decisions you make in analyzing your data. For example, you will need to explain why and how many observations are deleted because of any number of reasons, including coding problems, severe outliers, measurement errors, and if certain variables have missing observations and if and how you impute missing values.

4. When you have a good idea of the main points you plan to make in the paper, write an outline of how they will be organized and try a rough draft of the introduction. As you learn more about your topic, refine your outline.
5. A good way to approach the writing of a large research paper is to view it as a collection of smaller 3-5 page essays linked together. Work towards completing each of these smaller essays one at a time and then tie them all together into one paper. Keep in mind that your first draft merely gets your ideas on paper and will be revised. Your paper will go through many revisions.
6. When you have finished presenting your empirical findings and/or economic models, draw thoughtful and honest conclusions from your work. The model you developed may have limitations and you can suggest useful extensions to your research. Your empirical results may have turned out differently from your expectations or may seem counterintuitive. Whenever possible, turn adversity into an advantage by learning the most you can from your findings. Discuss empirical results that are puzzling or contradict your economic model as well as those that support it. Important advances in economics have come about in trying to explain results that may at first seem puzzling.